



LOCALIZATION AND MMWAVE EXTENSION FOR INDUSTRIAL 5G COMMUNICATION

CALL: BREITBAND AUSTRIA 2030: GIGAAPP

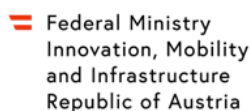
THEME: DIGITIZATION & BROADBAND

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PROJECT DURATION: 24 MONTHS

D1.1: DATA MANAGEMENT PLAN



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1 Executive Summary

This document provides the [data management plan \(DMP\)](#) of the LUMEIK-5G project. The document provides details on the expected types and formats of data that will be generated, collected, and used for the execution of project tasks. Data will also be used for the dissemination of project results in the form of deliverables and research results. The findability, accessibility, and re-useability of the data are also explained in this document.

2 Introduction

The **DMP** elaborates the process of data generation, collection, storage, and management in the project. The **DMP** specifies the types of data that will be generated for the execution of the project. Moreover, it explains how the data will be stored and managed. Details on data accessibility and findability are also provided. The **DMP** will be updated, if needed, during the course of the project.

2.1 Objective of the report

The objective of this report is to make aware of how the data generated under the LUMEIK-5G project for the execution of the planned tasks will be collected, managed, and disseminated. This report also explains the utilization of the data and its dissemination to a wider audience.

2.2 Structure of the document

This report is structured as follows. Section 3 provides a summary of the data that will be generated under the LUMEIK-5G project. Section 4 provides details on the types of expected data, section 5 explains why the data will be generated, and section 6 clarifies how data will be stored and the naming convention used for the deliverables. Section 7 explains how the data generated under the project will be accessible internally to the consortia members and externally to a wider audience and section 8 clarifies how the results of the project are reuseable. Lastly, section 9 concludes the document.

3 Data summary

During the execution of the project, different formats and types of data will be generated or collected. Dependent on the purpose and method of data collection, data will be in machine-readable, physical, and other formats. Data will originate from multiple platforms and from different project partners.

The data generated or collected may relate to the experiments performed under the project to demonstrate 5G capabilities for industrial and automotive use cases, performance evaluation results, positioning information of the devices in the LIT factory, reports, deliverables, presentations, research articles, and internal meeting minutes. The collection and sharing of information during the project is required to keep the consortia members informed and aligned on the execution of the project. Access to a collaboration workspace is provided to the consortia members to share data and information needed for the execution of the project. Moreover, a dissemination, exploitation, and communication plan (D6.1) will elaborate on the expected dissemination outcomes of the LUMEIK-5G project that will be shared with a wider audience.

4 Types of data

The LUMEIK-5G project envisions a dual deployment strategy within the 5G campus network, integrating both mmWave (FR2) and sub-6 (FR1) ranges to complement each other. A central focus is on 5G localization in the mmWave or UWB range in the LIT factory to explore and test specific localization use cases for situational awareness. To achieve the defined tasks and objectives of the project, multiple formats and types of data will be generated. The data generated under the project will be due to the proposed experimental work, computational work, dissemination/exploitation activities, and reporting. These generated data formats may include but are not limited to network [packet capture \(PCAP\)](#), Microsoft Office (xlsx, xls, docx, doc, pptx, ppt, etc.), [JavaScript object notation \(JSON\)](#), [comma-separated values \(CSV\)](#), [portable document format \(PDF\)](#), Latex/Overleaf (tex, bib), ROS2 bag files, etc. Moreover, software tools and packages will be developed using different programming languages such as C/C++, Python, Java, etc. which will generate file formats of respective programming development environments. Lastly, data will be generated in the form of images, pictures, and videos, mostly for the purpose of dissemination of project activities on social media and the project webpage.

5 Purpose of data collection

The purpose of data generation and collection is mainly to carry out the proposed tasks and objectives of the project. The main objective of the project is to showcase the 5G communication and positioning technology for industrial and automotive applications; the data generated will be used to analyze the performance of the technology and related research advancements carried out under the project. To report the outcomes of the project, coordination among the consortia members will be carried out, for which data for internal discussions will be generated. The collected material will be formatted and used for the purpose of reporting and dissemination of the project in the form of research results, deliverables, and social media dissemination. The collection and sharing of information is also essential to keep partners informed and aligned with the execution of the project tasks. The data generated under the project will be shared with the consortia members via a collaboration space. The collaboration space is accessible only to the members who contribute to the project.

6 Findability of data /research outputs

The collaborative space is structured with different folders such as work packages, deliverables, meetings, templates, etc. All material shared internally with the consortia members is easily findable due to a structured approach. Microsoft Teams platform is used for document storage and project communication. Moreover, a prefix file naming convention will be followed such as YEAR-MONTH-DAY_WP#_DocumentName. Moreover, templates for deliverables and presentation slides

are also in place for easy identification of project documents.

All project deliverables will be available on the project webpage for external audiences. The research outputs will be deposited to arXiv (<https://arxiv.org/>) repository or will be published as open access and will contain a data citation. Published research articles can be tracked via [digital object identifiers \(DOI\)](#).

7 Accessibility of data /research outputs

The deliverables providing various results and guidelines will be made public via the project webpage. However, all internal communication leading to the furnishing of the deliverables or scientific outputs which can be in the form of reports, tutorials, presentations, meeting minutes, etc. and will not be made public. The closed data due to contractual reasons will not be shared to open public. Accessibility to the external scientific community will be provided after consultation with the consortia members such that the [intellectual property rights \(IPR\)](#) are preserved.

8 Reusability of data/research outputs

The project outputs in terms of public deliverables will be available on the project website and can be reused by other projects. Similarly, the research outputs will be available at the publication venues such as IEEE Xplore (<https://ieeexplore.ieee.org>) and can be used as a reference to extend the state-of-the-art.

9 Conclusion

The [DMP](#) provides details on the generation, collection, storage, and usage of the data that will be produced under the project. The report also explains how the data storage is structured for consortia members of the project and how public deliverables and research outcomes will be accessible to a wider audience. Moreover, the types and formats of expected data under the project are also mentioned.

Acronyms

CSV comma-separated values. [4](#)

DMP data management plan. [2](#), [3](#), [5](#)

DOI digital object identifiers. [5](#)

IPR intellectual property rights. [5](#)

JSON JavaScript object notation. [4](#)

PCAP packet capture. [4](#)

PDF portable document format. [4](#)